Advanced Materials

Epocast® 50-A1 Resin
Hardener 9816

EPOXY LAMINATING SYSTEM

- High Strength
- Self Extinguishing
- Long Work Life

DESCRIPTION:
Epocast® 50-A1 Resin/Hardener 9816 epoxy laminating system is an unfilled, solvent-free, easy-to-handle material for the manufacture or repair of composite structures as well as for filament winding. Epocast® 50-A1 resin/Hardener 9816 epoxy laminating system is self extinguishing. Epocast® 50-A1 / Hardener 9816 is qualified to BMS 8-201, Type III, Rev. F. This product is also available in a shorter work life version - Epocast® 50-A1 resin/Hardener 946 epoxy laminating system.

TYPICAL PROPERTIES AS RECEIVED:

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Amber</td>
<td>Straw</td>
<td>Amber</td>
<td>Visual</td>
</tr>
<tr>
<td>Density, g/cc.</td>
<td>1.21</td>
<td>1.05</td>
<td>1.18</td>
<td>ASTM-D-792</td>
</tr>
<tr>
<td>Viscosity, at 77°F (25°C), cP</td>
<td>7,770</td>
<td>250</td>
<td>2,400</td>
<td>ASTM-D-2196</td>
</tr>
<tr>
<td>Gel time, at 77°F (25°C), 100 gms, minutes</td>
<td>--</td>
<td>--</td>
<td>65</td>
<td>ASTM-D-2471</td>
</tr>
</tbody>
</table>

MIX RATIO:
To 100 parts by weight of Epocast® 50-A1 resin, add 14 parts by weight of Hardener 9816. Mix both components thoroughly for several minutes to insure a complete and uniform mixture. Mix only that quantity which can be applied within several minutes after mixing to avoid excessive exotherm.

CURE SCHEDULE: Five days at 77°F (25°C) or two hours at 170-200°F (77-93°C) after room temperature gel. Handling and machining may be done after 16-24 hours at room temperature.
TYPICAL CURED PROPERTIES (Not for specification purposes)

<table>
<thead>
<tr>
<th>Test</th>
<th>Results</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 days at 77°F*</td>
<td>45.86 (316)</td>
<td>ASTM-D-695</td>
</tr>
<tr>
<td>27 days at 77°F*</td>
<td>49.00 (338)</td>
<td></td>
</tr>
<tr>
<td>1 day at 77°F + 2 hr. at 170°F*</td>
<td>46.24 (319)</td>
<td></td>
</tr>
<tr>
<td>Compressive strength, Ksi (MPa) at 77°F (25°C)</td>
<td>3.52 (24.3)</td>
<td></td>
</tr>
<tr>
<td>Compressive modulus, Msi (MPa)</td>
<td>3.13 (21.6)</td>
<td></td>
</tr>
<tr>
<td>Flammability, 60 second vertical test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>self extinguishing time, sec.</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>drip extinguishing time, sec.</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>burn length, in. (cm)</td>
<td>&lt;6 (&lt;15)</td>
<td>FAR 25.853A</td>
</tr>
</tbody>
</table>

* 77°F=25°C; 170°F=77°C

STORAGE:
Epocast® 50-A1 Resin/Hardener 9816 should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+35.6°F and 104°F). The product should not be exposed to direct sunlight. Under these storage conditions, and when supplied under Huntsman standard certification, this product has a shelf life of 1 year (expiration date may differ based on customer specification).

Material temperatures should be above 18°C (65°F) when mixing. After use, tightly reseal containers.

PRECAUTIONARY STATEMENT:
Huntsman Advanced Materials Americas LLC maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!
Refer to MSDS as mentioned above.

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Main Offices:
Huntsman Corporation
10003 Woodloch Forest Dr.
The Woodlands
Texas 77380
(281) 719-6000

Huntsman Advanced Technology Center
8600 Gosling Rd.
The Woodlands
Texas 77381
(281) 719-7400